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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/823,783	04/14/2004	Lydia Luckevich	0014-0201PUS2	4727

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EXAMINER

CROUSE, BRETT ALAN

ART UNIT	PAPER NUMBER
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1774

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	04/16/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 04/16/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/823,783	Applicant(s) LUCKEVICH ET AL.	
	Examiner Brett A. Crouse	Art Unit 1774	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 January 2007 and 23 March 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 and 29-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27 and 29-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Applicant's arguments, see lines 1-3 of page 1 of the remarks, filed 5 January 2007, with respect to claim 37 have been fully considered and are persuasive. The rejection under 35 USC 112 of claim 37 has been withdrawn.

Applicant's arguments, see lines 4-20 of page 1 of the remarks, filed 5 January 2007, with respect to claims 2, 3, 24, 25, 29, 30, 36 and 38 have been fully considered and are persuasive. The rejection under 35 USC 102(b) of claims 2, 3, 24, 25, 29, 30, 36 and 38 as anticipated by Mayer et al., has been withdrawn.

Applicant's arguments with respect to claims 1-27 and 29-38 have been considered but are moot in view of the new ground(s) of rejection as set forth below.

Claim Objections

Claims 6 and 16 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claims 6 and 16 ultimately depend from claim 2. Claim 2 recites the limitation "...water in an amount of from 70% to 170% of the stoichiometric amount...". Claims 6 and 16 recite the

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limitation "...water is present...in an amount of from 13% to 32% by weight of plaster...".

Paragraph [0013] of the detailed description teaches that these limitations are equivalent. Thus, claims 6 and 16 fail to further limit the subject matter of a previous claim.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 37 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 37, line 7, recites the limitation "...by weight of a rheology modified" the object that is rheology modified is not stated. For purposes of examination, claim 37 is interpreted as "by weight of a rheology modifier" based on the language of dependent claim 38.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-6, 8-11, 13-19, 21, 22, 24-27, and 36-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dailey et al., US 2,571,343 hereinafter known as Dailey.

Dailey teaches:

Column 4, lines 55-73, table, teaches a mixture of alpha gypsum, resin, and water. The resin of Dailey is held to be equivalent to the binder of the instant invention.

Column 1, lines 33-44, teach additional ingredients including resin plasticizers and fillers. The fillers include paper fiber, asbestos, clay, hemp, and glass wool.

Column 6, lines 24-50, teaches that the resin plasticizers include glycerols and glycols.

Column 3, lines 1-8, teach that the amount of water necessary to hydrate plaster of Paris to set gypsum is 18.6 parts water for every 100 parts plaster of Paris.

Column 4, lines 24-35, teach that the composition is formed using only enough water to completely hydrate the alpha gypsum. This is held to teach a stoichiometric amount of water.

Column 4, lines 45-49, teach that maximum strength is developed because of no interstitial spaces due to water evaporation. This is held to be equivalent to substantially free of macro defects.

Column 5, lines 9-10, teach the resin is preferably present in the range of 15 to 35 percent.

Column 8, lines 38-48, teach a preferred composition which includes sodium citrate as an hardening retarder.

Column 8, lines 51-57, teach various consistencies of slurry based on water content. The passage teaches that a heavy mix can be made with 13-14 parts water. This is held to be equivalent to a self-supporting paste.

Column 9, lines 4-18, teach curing times and temperatures. Typical temperatures are 75 degrees Fahrenheit and above.

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Dailey does not teach:

Dailey does not provide an experimental example including clay or other rheology modifier. However, Dailey teaches the use of rheology modifiers, as fillers, and lists suitable materials including clay.

It would have been obvious to one of ordinary skill in the art at the time of invention to optimize the alpha gypsum composition of Dailey using the additives and fillers taught by Dailey to produce an alpha gypsum composition of the instant invention having the various rheological properties of the instant invention.

Claims 1, 8, 17, 20, 21, 37 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kennedy-Skipton, US 4,114,384 hereinafter known as Skipton.

Skipton teaches:

Column 2, lines 28-35, teach a plaster composition comprising calcium sulphate hemihydrate and an aqueous solution containing 0.01 to 3 percent weight to volume of a water soluble salt of carboxy methyl cellulose. This is held to teach a binder.

Column 2, lines 41-43, teach the preferred calcium sulphate hemihydrate is alpha gypsum.

Column 2, line 67 through column 3, line 20, teaches fillers for the plaster composition including mineral clays, glass, asbestos, cellulosic fiber, and synthetic fibers. The fillers can be present in an amount up to 100 parts filler for every 100 parts calcium sulphate hemihydrate.

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Column 3, lines 25-38, teach that the water in contact with the plaster is absorbed during hardening.

Column 3, line 43 through column 4, line 32, table 1, teaches gauging calcium sulphate hemihydrate with water having sodium carboxy methyl cellulose. This is held to meet the limitations of a binder and the process limitations of claims 17 and 20. Example 1 of table 1 teaches alpha gypsum, water, and a binder in the necessary amounts of the limitations of claim 1.

Column 2, lines 8-19, teaches that the plaster stays in a borehole and the fixing elements are bonded tightly to the surrounding rock. This is held as equivalent to forming a shaped article as the plaster is pumped into a preformed space and allowed to hardening taking the shape of the space.

Skipton does not teach:

Skipton does not provide an example of a composition containing, filler, a rheology modifier of the instant invention. However, Skipton does teach filler materials in amounts of up to 100 parts filler for every 100 parts calcium sulphate hemihydrate. It would have been obvious to one of ordinary skill in the art to produce the plaster composition of Skipton for use as a molding compound of the instant invention because of the processability of the composition in producing formed shapes having strength and low toxicity.

Claims 7 and 29-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dailey et al., US 2,571,343 hereinafter known as Dailey as applied to claims 1-6, 8-11, 13-19,

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21, 22, 24-27, and 36-38 above, and further in view of Hashimoto et al., US 4,174,230

hereinafter known as Hashimoto.

The teachings of Dailey as in the above rejection are relied upon.

Dailey does not teach:

Dailey does not teach the use of polyvinylalcohol or polyethyleneglycol as binders in gypsum compositions.

Hashimoto teaches:

Column 2, line 65 through column 3, line 3, teaches preferred binders including polyvinyl alcohol, melamine-formaldehyde, methyl cellulose, and carboxymethyl cellulose.

Column 4, line 49 through column 5, line 38, table 2, examples 1 and 3, teaches an alpha gypsum composition having polyvinyl alcohol as a binder.

It would have been obvious to one of ordinary skill in the art at the time of invention to use the binders of Hashimoto in the composition of Dailey due to the teachings of Hashimoto as to preferred materials including melamine, polyvinyl alcohol, and cellulosic binders.

Claims 23 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dailey et al., US 2,571,343 hereinafter known as Dailey as applied to claims 1-6, 8-11, 13-19, 21, 22, 24-27, and 36-38 above, and further in view of Morris et al., US 5,482,551 hereinafter known as Morris.

The teachings of Dailey as in the above rejection is relied upon.

Dailey does not teach:

Dailey does not teach an extruded paste which is supported as it leaves the die.

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Morris teaches:

Column 6, line 19 through column 8, line 45, examples 1 and 3-8, teach extrusion of alpha gypsum with water, binders, and rheology modifiers onto a belt conveyor.

Column 4, lines 58-66, teach that reduced water levels improve the green strength of the material.

It would have been obvious to one of ordinary skill in the art at the time of invention to extrude a composition of Dailey using an extruder and belt conveyor of Morris to produce a sheet of gypsum composition having low water content with high strength as taught by Dailey and Morris.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dailey et al., US 2,571,343 hereinafter known as Dailey as applied to claims 1-6, 8-11, 13-19, 21, 22, 24-27, and 36-38 above, and further in view of Tanei et al., US 4,301,356 hereinafter known as Tanei.

The teachings of Dailey as in the above rejection is relied upon.

Dailey does not teach:

Dailey does not teach the use of microspheres or cenospheres as aggregate materials in a gypsum composition.

Tanei teaches:

Column 4, lines 36-42, teach a heating unit having dispersed therein fillers having good bondability to the hydraulic material in order to improve the durability of the material.

The fillers include glass microspheres, clay, glass fibers, and asbestos.

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Column 1, line 63 through column 2, line 3, teaches the hydraulic material is formed from a material which hardens upon reaction with water. Alpha-, beta-, gypsums are among the preferred materials.

Column 2, lines 23-38, teach a matrix comprising a hydraulic material, water, an aggregate, a filler such as clay or such as a fibrous material and combinations thereof.

Column 3, lines 57-63, teach the matrix is moldable.

It would have been obvious to one of ordinary skill in the art at the time of invention to incorporate the microspheres of Tanei into the composition of Dailey to produce a composition having improved durability.

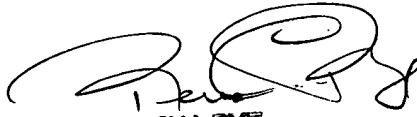
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brett A. Crouse whose telephone number is 571-272-6494. The examiner can normally be reached on Monday - Friday 6:00AM - 2:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on 571-272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BAC


RENA DYE
SUPERVISORY PATENT EXAMINER
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